CIVIL TECH LABS

Accredited by **NABL** as per ISO/ IEC 17025 : 2005

5, 1st Cross, Srinivasa Colony, Mission Road, Bangalore - 560027

Ph: 080 - 4114 2867 / Mob. : 96862 31801, Email: civiltechlabs@gmail.com

T-2654

To,

Assistant Executive Engineer,
Yelahanka Satellite Sub Division,
BBMP.

15th April 2017

Dear Sir,

Sub: Testing of Granular Sub Base & Wet Mix Macadam.

As requested, tests on physical properties were carried out for the Granular Sub Base & Wet Mix Macadam supplied by you, for the work of **'Asphalting to roads and Improvements to drains in B Sector of ward no. 04.'**

Please find the enclosed Test Reports of the above.

Thanking You,
For Civil Tech Labs

Khushboo

(KHUSHBOO L.)
Quality Manager

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TEST REPORT

GRADATION TEST ON WET MIX MACADAM

Name & Address of the Customer	AEE, Yelahanka Satellite Sub Division, BBMP.
Name of Work	Asphalting to roads and Improvements to drains in B Sector of ward no. 04.
Name of the Agency	M/s. Technical Manager (West), KRIDL
Date of Testing	12/04/2017
Technical Reference	MORTH Table 400-11

IS Sieve Designation (mm)	% By Weight Passing IS Sieve	Actual % By Weight Passing IS Sieve	Remarks
53	100	**100**	**Satisfy the Requirements**
45	95-100	**98.7**	
22.4	60-80	**75.4**	
11.2	40-60	**46.5**	
4.75	25-40	**32.5**	
2.36	15-30	**24.5**	
0.6	8-22	**18.8**	
0.075	0-8	**7.3**	

Note:

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3. Any correction invalidates this report.
4. The results are based on the test conducted on samples supplied by the customer.

Khushboo

(KHUSHBOO L.)
Quality Manager

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TEST REPORT

GRADATION TEST ON GRANULAR SUB BASE MIX GRADE - 2

Name & Address of the Customer	AEE, Yelahanka Satellite Sub Division, BBMP.
Name of Work	Asphalting to roads and Improvements to drains in B Sector of ward no. 04.
Name of Agency	M/s. Technical Manager (West), KRIDL
Date of Testing	11/04/2017
Technical Reference	IS : 2386(Part I)-1963 (Reaffirmed 2011)

IS Sieve Designation (mm)	% By Weight Passing IS Sieve as per MORTH (4th Revision) Table 400-1 for GSB Grade-2	Actual % By Weight Passing IS Sieve	Remarks
53	100	**100**	**Satisfies the requirement**
26.5	70-100	**98.5**	
9.5	50-80	**75.4**	
4.75	40-65	**57.4**	
2.36	30-50	**44.3**	
0.425	15-25	**18.9**	
0.075	3-10	**7.1**	

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Khushboo

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Quality Manager

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T-2654

To,

Assistant Executive Engineer,
Yelahanka Satellite Sub Division,
BBMP.

21st April 2017

Dear Sir,

Sub: Testing of Bituminous Macadam & Bituminous Concrete.

As requested, tests on physical properties were carried out for the Bituminous Macadam & Bituminous Concrete supplied by you, for the work of **'Asphalting to roads and Improvements to drains in B Sector of ward no. 04.'**

Please find the enclosed Test Reports of the above.

Thanking You,
For Civil Tech Labs

Khushboo

CIVIL TECH LABS BANGALORE

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Quality Manager

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TEST REPORT

TEST ON THE DETERMINATION OF BITUMEN CONTENT ON BITUMINOUS MACADAM MIX-GRADE 2

Name & Address of the Customer	AEE, Yelahanka Satellite Sub Division, BBMP.
Name of Work	Asphalting to roads and Improvements to drains in B Sector of ward no. 04.
Name of the Agency	M/s. Technical Manager (West), KRIDL
Date of Testing	18/04/2017

A)

Sl. No.	Test	Test Method	Technical Reference
1	Extraction of mineral aggregate	Test Method A (Centrifuge Method)	ASTM: D2172/ D2172M-11
2	Determination of amount of mineral matter/fines in the extract	Ashing Method	

B)

Specification: As Per MORTH (4th Revision) Table 500-4 BM-Grade -2, Bitumen Content for BM Grade-2 is 3.3 % TO 3.5 %		
Sl. No.	**Description**	**Values**
1	Weight of bituminous mixture before extraction test, W_1 g	2000
2	Weight of mineral aggregate obtained from centrifuge extractor, W_2 g	1921.3
3	Weight of mineral matter in the total volume of extract (by ashing), W_3 g	11.2
4	Total weight of aggregate in the bituminous mixture, W_4 g = (W_2 +W_3) g	1932.5
5	Total weight of Bitumen extracted from the mixture, W_5 g = (W_1-W_4) g	67.5
6	Bitumen content in %, (W_5/W_1) %	3.38

Remarks	Satisfies the requirements.

Note:

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TEST REPORT

GRADATION TEST ON BITUMINOUS MACADAM MIX GRADE - 2

Name & Address of the Customer	AEE, Yelahanka Satellite Sub Division, BBMP.
Name of Work	Asphalting to roads and Improvements to drains in B Sector of ward no. 04.
Name of the Agency	M/s. Technical Manager (West), KRIDL
Date of Testing	18/04/2017
Technical Reference	IS : 2386(Part I)-1963 (Reaffirmed 2011)

	Sample-1		
IS Sieve Designation (mm)	**% By Weight Passing IS Sieve as per MORTH (4th Revision) Table 500-4 for BM Grade-2**	**Actual % By Weight Passing IS Sieve**	**Remarks**
26.5	100	**100**	**Satisfies the requirement.**
19	90-100	**98.8**	
13.2	56-88	**72.4**	
4.75	16-36	**27.5**	
2.36	4-19	**15.6**	
0.3	2-10	**8.8**	
0.075	0-8	**6.8**	

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TEST REPORT

GRADATION TEST ON BITUMINOUS MACADAM MIX GRADE - 2

Name & Address of the Customer	AEE, Yelahanka Satellite Sub Division, BBMP
Name of Work	Asphalting to roads and Improvements to drains in B Sector of ward no. 04.
Name of the agency	M/s. Technical Manager (West), KRIDL
Date of Testing	18/04/2017
Technical Reference	IS : 2386(Part I)–1963 (Reaffirmed 2011)

	Sample-2		
IS Sieve Designation (mm)	**% By Weight Passing IS Sieve as per MORTH (4th Revision) Table 500-4 for BM Grade-2**	**Actual % By Weight Passing IS Sieve**	**Remarks**
26.5	100	**100**	**Satisfies the requirement.**
19	90-100	**97.5**	
13.2	56-88	**73.6**	
4.75	16-36	**26.6**	
2.36	4-19	**16.8**	
0.3	2-10	**8.4**	
0.075	0-8	**7.1**	

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TEST REPORT

TEST ON DETERMINATION OF BITUMEN CONTENT ON BITUMINOUS CONCRETE MIX-GRADE 2

Name & Address of the Customer	AEE, Yelahanka Satellite Sub Division, BBMP.
Name of Work	Asphalting to roads and Improvements to drains in B Sector of ward no. 04.
Name of Agency	M/s. Technical Manager (West), KRIDL
Date of Testing	21/04/2017

A)

Sl. No.	Test	Test Method	Technical Reference
1	Extraction of mineral aggregate	Test Method A (Centrifuge Method)	ASTM: D2172/ D2172M-11
2	Determination of amount of mineral matter/fines in the extract	Ashing Method	

B)

Specification: As Per MORTH (4th Revision) Table 500-18, Bitumen Content for BC Grade-2 is 5% to 7%

Sl. No.	Description	Values
1	Weight of bituminous mixture before extraction test, W_1 g	2000.00
2	Weight of mineral aggregate obtained from centrifuge extractor, W_2 g	1872.65
3	Weight of mineral matter in the total volume of extract (by ashing), W_3 g	12.89
4	Total weight of aggregate in the bituminous mixture, W_4 g = (W_2 +W_3) g	1885.54
5	Total weight of Bitumen extracted from the mixture, W_5 g = (W_1-W_4) g	114.46
6	Bitumen content in %, (W_5/W_1) %	5.72

Remarks	Satisfies the requirement.

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TEST REPORT

GRADATION TEST ON BITUMINOUS CONCRETE MIX GRADE - 2

Name & Address of the Customer	AEE, Yelahanka Satellite Sub Division, BBMP.
Name of Work	Asphalting to roads and Improvements to drains in B Sector of ward no. 04.
Name of Agency	M/s. Technical Manager (West), KRIDL
Date of Testing	21/04/2017
Technical Reference	IS : 2386(Part I)-1963 (Reaffirmed 2011)

	Sample-1		
IS Sieve Designation (mm)	**% By Weight Passing IS Sieve as per MORTH (4th Revision) Table 500-18 for BC Grade-2**	**Actual % By Weight Passing IS Sieve**	**Remarks**
19	100	**100**	**Satisfies the requirements**
13.2	79-100	**98.3**	
9.5	70-88	**81.5**	
4.75	53-71	**62.5**	
2.36	42-58	**47.5**	
1.18	34-48	**38.5**	
0.6	26-38	**32.4**	
0.3	18-28	**25.6**	
0.15	12-20	**17.8**	
0.075	4-10	**8.4**	

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TEST REPORT

GRADATION TEST ON BITUMINOUS CONCRETE MIX GRADE - 2

Name & Address of the Customer	AEE, Yelahanka Satellite Sub Division, BBMP
Name of Work	Asphalting to roads and Improvements to drains in B Sector of ward no. 04
Name of Agency	M/s. Technical Manager (West), KRIDL
Date of Testing	21/04/2017
Technical Reference	IS : 2386(Part I)-1963 (Reaffirmed 2011)

	Sample-2		
IS Sieve Designation (mm)	**% By Weight Passing IS Sieve as per MORTH (4th Revision) Table 500-18 for BC Grade-2**	**Actual % By Weight Passing IS Sieve**	**Remarks**
19	100	**100**	**Satisfies the requirements**
13.2	79-100	**98.4**	
9.5	70-88	**82.4**	
4.75	53-71	**63.5**	
2.36	42-58	**46.5**	
1.18	34-48	**37.4**	
0.6	26-38	**31.2**	
0.3	18-28	**24.8**	
0.15	12-20	**18.4**	
0.075	4-10	**7.9**	

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